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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,390	02/12/2004	Craig M. Bethke	9080/91463 (BET 101.1 US)	4605
24628	7590	02/22/2006	EXAMINER	
WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			BARRY, CHESTER T	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/777,390	BETHKE, CRAIG M.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Chester T. Barry	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 December 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3 and 5-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 8-19, 21-23 is/are allowed.
- 6) Claim(s) 1,2 and 20 is/are rejected.
- 7) Claim(s) 3 and 5-7 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

Claims 1 – 2, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Price.

USP 6143195 to Price describes applying an aqueous alkaline solution (a mixture of "highly reactive calcium oxide with lower reactive calcium carbonate," col 2 line 63, hereinafter simply 2/63) to a groundwater-bearing formation and contacting a mineral compound (pyrite, 2/66) within the formation with the alkaline solution. In the course of doing so, the high pH environment caused by the calcium oxide combining with water forms calcium hydroxide which facilitates the ionic substitution of calcium for sodium into the clay crystal structure. This ionic substitution is said to "expand the structure of the clay mineralology, allowing water to drain more freely from the clay substratum, thereby providing near term dewatering of the sulfide [i.e., pyrite mineral] bearing material. 3/63-4/6. Accordingly, the Price method has the effect of converting the mineral compound (pyrite) to a form having a higher metal contaminant sorption capacity than the initial metal contaminant sorption capacity," as recited in claim 1. per claim 2, Price's alkaline solution is injected into the formation. Per claim 1 as amended, Price describes use of alumina and silica.

Applicant's arguments filed 12/21/05 have been fully considered but they are not persuasive.

Applicant argues that the amendments to claim 1, i.e., limitation of the mineral compound to specific compounds listed in the claim, overcome the Sec. 102 rejection over Price "particularly in view of the [9/19/05] Action['s comments concerning claims 5 – 9 and 11." The comments regarding claims 5 – 9 and 11 made by the examiner in the

9/19/05 Office action were the following: "Claim(s) 8, 9 and 11 is/are allowed" and Claim(s) 5-7 are objected to." See Office Action Summary mailed 9/19/05.

Furthermore, the examiner stated that claims 5 – 7 would be allowable if presented in independent form.

Based on these comments, the applicant might have amended claim 1 to include

- a) at least all of the limitations of claim 5, or
- b) at least all of the limitations of claim 6, or
- c) at least all of the limitations of claim 8 not already recited in claim 1.

Applicant did not do (a) because claim 1 as amended does not recite the limitations of claim 5, to wit, "wherein said application of aqueous alkaline solution inhibits desorption of metals from the mineral surface to form new mobile metal contaminant."

Applicant also did not do (b) because claim 1 as amended does not recite the limitations of claim 6, to wit, "wherein said a groundwater may further contain dissolved metal species, said process comprising a further step of d: Contacting the groundwater with the aqueous alkaline solution to precipitate the dissolved metal species to form precipitated metal species, wherein the precipitated metal species provides additional metal ion contaminant sorbing sites."

Finally, Applicant also did not do (c) because claim 1 as amended does not recite the limitations of claim 8 not already recited in claim 1 prior to amendment, to wit, "applying an aqueous alkaline solution to the groundwater-bearing formation in a manner that permeates the zones of the aquifer through which water flows" and step d, "contacting said treated mineral compound with groundwater that may contain mobile

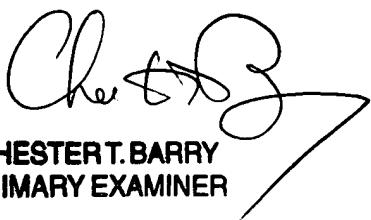
metal contaminants to permit the treated mineral compound to sorb mineral metal  
contaminants to form groundwater having an attenuated metal content."

It appears instead that applicant incorporated the limitations recited in claim 11 (dependent on claim 8) without including the limitations found in claim 8 not recited in original claim 1. Such subject matter was not indicated as allowable.

Accordingly, the rejection of claim 1 is maintained.

Claims 8 – 19, 21-23 are allowed.

Objection is made to claims 3, 5 – 7 as dependent on a rejected base claim, but would be allowed if presented in independent form.

  
CHESTER T. BARRY  
PRIMARY EXAMINER

571-272-1152